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NO. 4403 P. 1

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From: Dominic M. Kotab		

Docket No.: HIT1P023/HISJ920030085US1

App. No: 10/733,097

Total Number of Pages Being Transmitted, Including Cover Sheet: 30

Message:

Please deliver to the Board of Patent Appeals and Interferences.

Thank you,

Dominic M. Kotab

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October 16, 2006

Practitioner's Docket No. HIT1P023/HSJ920030085US1

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Daniel W. Bedell et al.

Application No.: 10/733,097

Filed: 12/10/2003

For: Improved Plating Using Copolymer

Group No.: 1756

Examiner: Chacko-Davis, D.

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Commissioner for Patents

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Alexandria, VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF
(PATENT APPLICATION-37 C.F.R. § 41.37)

1. Transmitted herewith, is the APPEAL BRIEF in this application, with respect to the Notice of Appeal filed on August 14, 2006.
2. STATUS OF APPLICANT

This application is on behalf of other than a small entity.

CERTIFICATION UNDER 37 C.F.R. §§ 1.8(a) and 1.10*

(When using Express Mail, the Express Mail label number is mandatory;
Express Mail certification is optional.)

I hereby certify that, on the date shown below, this correspondence is being:

MAILING

deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450

37 C.F.R. § 1.8(a)
with sufficient postage as first class mail37 C.F.R. § 1.10*
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Date

10/16/2006

Signature

Erica L. Farlow

(type or print name of person certifying)

* Only the date of filing (' 1 6) will be the date used in a patent term adjustment calculation, although the date on any certificate of mailing or transmission under ' 1 8 continues to be taken into account in determining timeliness. See ' 1.703(f). Consider "Express Mail Post Office to Addressee" (' 1 10) or facsimile transmission (' 1.6(d)) for the reply to be accorded the earliest possible filing date for patent term adjustment calculations

Transmittal of Appeal Brief--page 1 of 2

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3. FEE FOR FILING APPEAL BRIEF

Pursuant to 37 C.F.R. § 41.20(b)(2), the fee for filing the Appeal Brief is:

other than a small entity

\$500.00

Appeal Brief fee due

\$500.00

4. EXTENSION OF TERM

The proceedings herein are for a patent application and the provisions of 37 C.F.R. § 1.136 apply.

Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

5. TOTAL FEE DUE

The total fee due is:

Appeal brief fee

\$500.00

TOTAL FEE DUE

\$500.00

6. FEE PAYMENT

Authorization is hereby made to charge the amount of \$500.00 to Deposit Account No. 50-2587 (Order No. HSJ920030085US1).

A duplicate of this transmittal is attached.

7. FEE DEFICIENCY

If any additional extension and/or fee is required, and if any additional fee for claims is required, charge Deposit Account No. 50-2587 (Order No. HSJ920030085US1).

Date:

10/16/2006

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Signature of Practitioner

Dominic M. Kotab

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San Jose, CA 95172

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Transmittal of Appeal Brief—page 2 of 2

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PATENT

In re the application of)

Bedell et al.)

Application No. 10/733,097)

Filed: 12/10/2003)

For: IMPROVED PLATING USING)
COPOLYMER)

Group Art Unit: 1756

Examiner: Chacko-Davis, Daborah

Attorney Docket No. HIT1P023/
HSJ920030085US1

Date: October 16, 2006

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

ATTENTION: Board of Patent Appeals and Interferences**APPEAL BRIEF (37 C.F.R. § 41.37)**

This brief is in furtherance of the Notice of Appeal, filed in this case on August 14, 2006.

The fees required under § 1.17, and any required petition for extension of time for filing this brief and fees therefor, are dealt with in the accompanying TRANSMITTAL OF APPEAL BRIEF.

This brief contains these items under the following headings, and in the order set forth below (37 C.F.R. § 41.37(c)(i)):

- I REAL PARTY IN INTEREST
- II RELATED APPEALS AND INTERFERENCES
- III STATUS OF CLAIMS
- IV STATUS OF AMENDMENTS
- V SUMMARY OF CLAIMED SUBJECT MATTER
- VI GROUNDS OF REJECTION PRESENTED FOR REVIEW
- VII ARGUMENTS

- VIII APPENDIX OF CLAIMS INVOLVED IN THE APPEAL
- IX APPENDIX LISTING ANY EVIDENCE RELIED ON BY THE APPELLANT IN
THE APPEAL
- X RELATED PROCEEDINGS APPENDIX

The final page of this brief bears the practitioner's signature.

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I REAL PARTY IN INTEREST (37 C.F.R. § 41.37(c)(1)(i))

The real party in interest in this appeal is Hitachi Global Storage Technologies Netherlands B.V.

OCT 16 2006

II RELATED APPEALS AND INTERFERENCES (37 C.F.R. § 41.37(c) (1)(ii))

With respect to other prior or pending appeals, interferences, or related judicial proceedings that will directly affect, or be directly affected by, or have a bearing on the Board's decision in the pending appeal, there is no such prior or pending appeals, interferences, or related judicial proceedings.

Since no such proceedings exist, no Related Proceedings Appendix is appended hereto.

III STATUS OF CLAIMS (37 C.F.R. § 41.37(c) (1)(iii))**A. TOTAL NUMBER OF CLAIMS IN APPLICATION**

Claims in the application are: 1-36

B. STATUS OF ALL THE CLAIMS IN APPLICATION

1. Claims pending: 1-29, 31-36
2. Claims withdrawn from consideration: 29, 31-35
3. Claims allowed: 15-28
4. Claims rejected: 1-14, 36
5. Claims canceled: 30

C. CLAIMS ON APPEAL

The claims on appeal are: 1-14, 36

See additional status information in the Appendix of Claims.

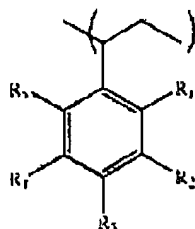
IV STATUS OF AMENDMENTS (37 C.F.R. § 41.37(c)(1)(iv))

As to the status of any amendment filed subsequent to final rejection, the amendment filed subsequent to final rejection was entered.

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V SUMMARY OF CLAIMED SUBJECT MATTER (37 C.F.R. § 41.37(c)(1)(v))

With respect to a summary of independent claim 1, a method for plating is claimed. As shown in Fig. 10 and described at p. 20, lines 3-8, a substrate 11 is coated with a barrier layer 12A. The barrier layer comprises an adhesive composition comprising a polyphenolic polymer, the polyphenolic polymer comprising repeating monomeric units having the formula:



wherein each of R₁, R₂, R₃, R₄, and R₅ are each individually a hydroxy group, hydrogen, or an azo dye moiety as described at p. 11, lines 3-10. With continued reference to Fig. 10, the barrier layer is coated with a top layer comprising a photoresist. See p. 20, lines 15-19. As described on p. 23, lines 8-10, the top layer is imagewise exposed to radiation. A portion of the top layer is removed for exposing a portion of the barrier layer, and the exposed portion of the barrier layer is removed for exposing a portion of the substrate as described at p. 20, lines 16-19 and shown in Fig. 11. A material is plated on the exposed portion of the substrate as shown in Fig. 12 and described at p. 20, lines 20-22.

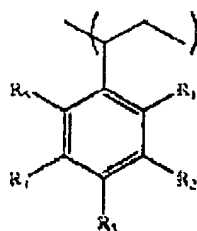
Claim 9 is directed to a method as recited in claim 1, wherein the exposed portion of the top layer is removed using a developer, as described at p. 20, lines 16-19. See also Fig. 11. The developer does not remove the exposed portion of the barrier layer as described at p. 21, line 11.

Claim 10 is directed to a method as recited in claim 9, wherein the exposed portion of the barrier layer is removed by reactive ion etching. See p. 21, lines 15-16.

Claim 11 is directed to a method as recited in claim 9, wherein the exposed portion of the barrier layer is removed by milling. See p. 21, lines 15-16.

Claim 12 is directed to a method as recited in claim 1, wherein removal of the exposed portion of the barrier layer does not create undercuts under the photoresist, as shown in Fig. 10 and described at p. 21, lines 11-12.

With respect to a summary of independent claim 36, a method for preventing exposure of protected portions of a substrate during plating is claimed. As shown in Fig. 10 and described at p. 20, lines 3-8, a substrate 11 is coated with a barrier layer 12A. The barrier layer comprises an adhesive composition comprising a polyphenolic polymer, the polyphenolic polymer comprising repeating monomeric units having the formula:



wherein each of R_1 , R_2 , R_3 , R_4 , and R_5 are each individually a hydroxy group, hydrogen, or an azo dye moiety as described at p. 11, lines 3-10. With continued reference to Fig. 10, the barrier layer is coated with a top layer comprising a photoresist. See p. 20, lines 15-19. As described on p. 23, lines 8-10, the top layer is imagewise exposed to radiation. A portion of the top layer is removed for exposing a portion of the barrier layer, and the exposed portion of the barrier layer is removed for exposing a portion of the substrate as described at p. 20, lines 16-19 and shown in Fig. 11. A material is plated on the exposed portion of the substrate as shown in Fig. 12 and described at p. 20, lines 20-22. The barrier layer is present in an effective amount to prevent cracks in the photoresist from transferring through the barrier layer and exposing portions of the substrate. See p. 19, line 22 to p. 20, line 2. See also p. 21, lines 3-4.

VI GROUNDS OF REJECTION PRESENTED FOR REVIEW (37 C.F.R. §**41.37(c)(1)(vi))**

Following, under each issue listed, is a concise statement setting forth the corresponding ground of rejection.

Issue # 1: Claims 1-8 and 13-14 stand rejected under 35 USC 103(a) as being unpatentable over US2001/0005741 to Breyta et al. (hereinafter "Breyta") in view of US5017271 to Whewell et al. (hereinafter "Whewell").

Issue # 2: Claims 9-11 stand rejected under 35 USC 103(a) as being unpatentable over Breyta et al. in view of Whewell and further in view of US6866987 to Lee (hereinafter "Lee").

Issue # 3: Claim 12 stands rejected under 35 USC 103(a) as being unpatentable over Breyta in view of Whewell and further in view of US6218056 to Pinarbasi (hereinafter "Pinarbasi").

Issue # 4: Claim 36 stands rejected under 35 USC 103(a) as being unpatentable over Breyta et al. in view of Whewell and further in view of US5006202 to Hawkins (hereinafter "Hawkins").

VII ARGUMENTS (37 C.F.R. § 41.37(c)(1)(vii))

The claims of the groups noted below do not stand or fall together. In the present section, appellant explains why the claims of each group are believed to be separately patentable.

Issue #1:

Issue # 1: Claims 1-8 and 13-14 stand rejected under 35 USC 103(a) as being unpatentable over US2001/0005741 to Breyta et al. (hereinafter "Breyta") in view of US5017271 to Whewell et al. (hereinafter "Whewell").

Group #1: Claims 1-8, 13-14

Claims 1-8, 13-14

In the Office Action dated May 15, 2006, claims 1-8 and 13-14 were rejected under 35 USC 103(a) as being unpatentable over Breyta in view of Whewell.

The analysis of obviousness was set forth in *Graham v. John Deere*, 383 U.S. 1, 148 USPQ 459 (1966). In order to establish a *prima facie* case of obviousness, three basic criteria must be met:

First, there must be some *suggestion or motivation*, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings of the references. Second, there must be a *reasonable expectation of success*. Finally, the prior art reference or combined references must teach or suggest *all the claim limitations*. *The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art*, and not based on applicant's disclosure (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991; emphasis added).

Applicants respectfully traverse the rejection of claims 1-8 and 13-14 as failing the *Graham* test. Specifically, regarding claim 1 and its dependents, the combination proposed in the rejection fails the first element of the *Graham* test.

Regarding claims 1-8 and 13-14, Applicants respectfully disagree that there is suggestion or motivation to combine the teachings of Breyta with Whewell. Particularly, Whewell teaches away from plating using an underlayer. A *prima facie* case of obviousness may be rebutted by showing that the art, in any material respect, teaches away from the claimed invention. *In re Geisler*, 116 F.3d 1465, 1471, 43 USPQ2d 1362, 1366 (Fed. Cir. 1997) [emphasis added]. It is improper to combine references where the references teach away from their combination. *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983).

The claimed invention requires coating a substrate with a barrier layer, and coating the barrier layer with a top layer comprising a photoresist. The rejection indicates that Breyta discloses coating a substrate with a release layer, then coating the release layer with a photoresist. Whewell has been added to show plating.

However, Whewell teaches away from coating a substrate with a barrier layer, and coating the barrier layer with a top layer comprising a photoresist, as asserted in the rejection, and as required by the claimed invention. The rejection based on Whewell thus violates the rule of *In re Geisler, supra*. Particularly, Whewell clearly indicates that it is a purpose of his invention to eliminate such a layer between photoresist and a substrate. For example, Whewell states that "[t]he present invention also eliminates the need for a pre-treatment of the metallic surfaces prior to the application of the photoresist, and allows for better resolution in the photo imaging process." See Whewell col. 3, lines 26-30. Perhaps even more compelling, Whewell goes on to indicate that such a pretreatment is not only unnecessary, but is actually undesirable.

The rejection indicates that it would have been obvious to modify Breyta's using a plating process as suggested by Whewell. However, as shown in Breyta's FIGS. 2-3 and 6-7, an undercut is formed as part of the photoresist patterning process. Referring next to Whewell col. 2, lines 26-34, Whewell states that masking processes such as that disclosed in Breyta are problematic. Particularly, Whewell states that underlayers under a photoresist mask result in formation of an undercut under the photoresist. This in turn results in conductive lines that do not possess rectangular dimensions. Particularly, such masks result in conductive lines that are

curved inwardly. This in turn adversely affects the minimum size possible for manufacturing conductive lines. Accordingly, Whewell's invention "eliminates the need for a pre-treatment of the metallic surfaces prior to the application of the photoresist, and allows for better resolution in the photo imaging process." See Whewell col. 3, lines 26-31.

Applying the rule of *In re Geisler, supra*, it is clear that Whewell teaches away from plating in a process as claimed, where a barrier layer is positioned between the substrate and the photoresist, as to do so would result in poor definition of the conductive lines that are so critical to Whewell's invention.

Further, because Whewell not only teaches away from masking processes using an underlayer and undercut, but actually makes such an object of his invention, it is clear that Whewell teaches away from combination with Breyta. It is improper to combine references where the references teach away from their combination. *In re Grasselli*.

In addition, the mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990). Although a prior art device "may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so." 916 F.2d at 682, 16 USPQ2d at 1432.). As noted in the Office Action, Breyta does not mention plating. As noted above, Whewell indicates that plating in conjunction with a photoresist mask having an undercut is undesirable. Therefore, it cannot be said that the prior art suggests the desirability of the combination, as required by *In re Mills*.

For any of the foregoing reasons, the rejection fails the first prong of the *Graham* test. Reconsideration and allowance of claims 1-8 and 13-14 is respectfully requested.

Issue #2:

Issue # 2: Claims 9-11 stand rejected under 35 USC 103(a) as being unpatentable over Breyta et al. in view of Whewell and further in view of US6866987 to Lee (hereinafter "Lee").

Group #1: Claim 9

Regarding claim 9, Applicants have shown that parent claim 1 is allowable over the combination of Breyta and Whewell. Accordingly, the rejection based on Breyta, Whewell and Lee suffers from the same deficiencies, and therefore is improper.

Regardless, Applicants also respectfully assert that the combination proposed in the rejection fails the third prong of the *Graham* test. Particularly, regarding claim 9, Lee has been added to show that the developer does not remove the exposed portion of the barrier layer. Applicants respectfully disagree. Referring to Lee FIG. 2 and related description at col. 3, lines 28-64 (cited in part in the rejection), it is clear that the underlayer 25 is in fact removed with the photoresist layer 12 after exposure. As shown, after exposure, the photoresist layer 12 and underlayer 25 are removed. Note with particularity Lee col. 3, lines 42-45, which states that "Layers 25 and 12 together form a bilayer which is treated as a single layer for purposes of exposure to radiation and subsequent development." Then, as noted at Lee col. 3, lines 54-56, etching of the underlayer 25 is allowed to continue to create an undercut, as shown in Lee FIG. 4. Accordingly, Lee does not teach or suggest that the underlayer 25 remains after radiation and development. For this reason as well, the rejection fails the *Graham* test. Reconsideration and allowance of claim 9 is respectfully requested.

Group #2: Claims 10-11

Regarding claims 10-11, Applicants have shown that parent claim 1 is allowable over the combination of Breyta and Whewell. Accordingly, the rejection based on Breyta, Whewell and Lee suffers from the same deficiencies, and therefore is improper.

Regarding claims 10-11, Applicants also respectfully disagree that Lee teaches or suggests removal of an underlayer 25. Particularly, as mentioned above in the arguments in favor of claim

9. the underlayer 25 is removed as part of the developing process. Further, referring to Lee col. 4, lines 9-15 (cited in the rejection), Applicants note that this section refers to using the remaining photoresist 12 as a mask for etching and milling of a substrate 22, as shown in FIG. 4 (prior to milling or etching) and FIGS. 5-6 (after milling or etching). Accordingly, Lee does not teach or suggest that the underlayer 25 is removed by milling or etching. Thus, the rejection fails the third prong of *Graham* test. Reconsideration and allowance of claims 10-11 is respectfully requested.

Issue #3:

Issue # 3: Claim 12 stands rejected under 35 USC 103(a) as being unpatentable over Breyta in view of Whewell and further in view of US6218056 to Pinarbasi (hereinafter "Pinarbasi").

Group #1: Claim 12

Applicants have shown that the parent claim 1 is allowable over the combination of Breyta and Whewell. Accordingly, the rejection based on Breyta, Whewell and Pinarbasi suffers from the same deficiencies. and therefore is improper.

Regardless, Applicants also respectfully assert that the combination proposed in the rejection fails the third prong of the *Graham* test. Claim 12 requires that no undercuts are created under the photoresist. While Pinarbasi indicates that the length of the undercut can be controlled by varying the amount of time the weak developer is left in place, Pinarbasi does indeed indicate that an undercut is present. First, by stating that the length of the undercut is controllable, he implies that an undercut is present. Second, Pinarbasi FIG. 12 shows an undercut. Nowhere does Pinarbasi suggest that no undercut is present. Thus, the rejection fails the *Graham* test. Reconsideration and allowance of claim 12 is respectfully requested.

Issue #4:

Issue # 4: Claim 36 stands rejected under 35 USC 103(a) as being unpatentable over Breyta et al. in view of Whewell and further in view of US5006202 to Hawkins (hereinafter "Hawkins").

Group #1: Claim 36

Applicants have shown that claim 1 is allowable over the combination of Breyta and Whewell. Claim 36 contains limitations similar to claim 1. Accordingly, the rejection of claim 36 based on Breyta, Whewell and Hawkins suffers from the same deficiencies as the rejection of claim 1, and therefore is improper.

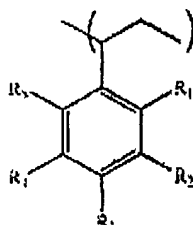
Applicants also argue that Whewell teaches away from its combination with Hawkins, thereby negating a prima facie case of obviousness per the rule of *In re Grasselli, supra*. It is improper to combine references where the references teach away from their combination. *In re Grasselli*. The rejection indicates that Hawkins discloses that the substrate is protected by a protective layer. Looking closer at the section of Hawkins cited in the rejection, it is seen that Hawkins actually uses two underlayers under the photoresist (masking layer and protective layer). Again, Whewell states that "[t]he present invention also eliminates the need for a pre-treatment of the metallic surfaces prior to the application of the photoresist, and allows for better resolution in the photo imaging process." See Whewell col. 3, lines 26-30. Thus, the rejection fails the *Graham* test. Reconsideration and allowance of claim 36 is respectfully requested.

In view of the remarks set forth hereinabove, all of the independent claims are deemed allowable, along with any claims depending therefrom.

VIII APPENDIX OF CLAIMS (37 C.F.R. § 41.37(c)(1)(viii))

The text of the claims involved in the appeal (along with associated status information) is set forth below:

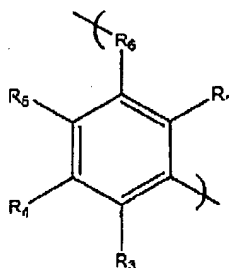
1. (PREVIOUSLY PRESENTED) A method for plating, comprising:
coating a substrate with a barrier layer, wherein the barrier layer comprises an adhesive composition comprising a polyphenolic polymer, said polyphenolic polymer comprising repeating monomeric units having the formula:



- wherein each of R₁, R₂, R₃, R₄, and R₅ are each individually a hydroxy group, hydrogen, or an azo dye moiety;
- coating the barrier layer with a top layer comprising a photoresist;
- imagewise exposing the top layer to radiation;
- removing a portion of the top layer for exposing a portion of the barrier layer;
- removing the exposed portion of the barrier layer for exposing a portion of the substrate;
- and
- plating a material on the exposed portion of the substrate.
2. (ORIGINAL) A method as recited in claim 1, wherein the substrate includes a seed layer, the barrier layer being formed on the seed layer.
 3. (ORIGINAL) A method as recited in claim 1, wherein the barrier layer comprises 100% of the polyphenolic polymer.

4. (ORIGINAL) A method as recited in claim 1, wherein the barrier layer is spin coated on the substrate.
5. (ORIGINAL) A method as recited in claim 1, wherein the barrier layer is substantially formed in a monolayer.
6. (ORIGINAL) A method as recited in claim 1, wherein only one of R_1 , R_2 , R_3 , R_4 , and R_5 is hydroxyl.
7. (ORIGINAL) A method as recited in claim 1, wherein the exposed portion of the top layer is removed using a developer.
8. (ORIGINAL) A method as recited in claim 7, wherein the developer also removes the exposed portion of the barrier layer.
9. (ORIGINAL) A method as recited in claim 7, wherein the developer does not remove the exposed portion of the barrier layer.
10. (ORIGINAL) A method as recited in claim 9, wherein the exposed portion of the barrier layer is removed by reactive ion etching.
11. (ORIGINAL) A method as recited in claim 9, wherein the exposed portion of the barrier layer is removed by milling.
12. (ORIGINAL) A method as recited in claim 1, wherein removal of the exposed portion of the barrier layer does not create undercuts under the photoresist.
13. (ORIGINAL) A method as recited in claim 1, wherein removal of the exposed portion of the barrier layer creates undercuts under the photoresist.

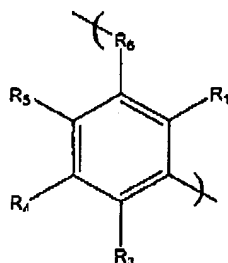
14. (ORIGINAL) A method as recited in claim 1, wherein the barrier layer also functions as an antireflective coating.
15. (PREVIOUSLY PRESENTED) A method for plating, comprising:
coating a substrate with a barrier layer, wherein the barrier layer comprises an adhesive composition comprising a polyphenolic polymer, said polyphenolic polymer comprising repeating monomeric units having the formula:



- wherein each of R₁, R₃, R₄, and R₅ are each individually a hydroxy group, hydrogen, or an substituted azo group and R₆ is a methylene or substituted methylene group;
coating the barrier layer with a top layer comprising a photoresist;
imagewise exposing the top layer to radiation;
removing a portion of the top layer for exposing a portion of the barrier layer;
removing the exposed portion of the barrier layer for exposing a portion of the substrate;
and
plating a material on the exposed portion of the substrate.
16. (ORIGINAL) A method as recited in claim 15, wherein the substrate includes a seed layer, the barrier layer being formed on the seed layer.
17. (ORIGINAL) A method as recited in claim 15, wherein the barrier layer comprises 100% of the polyphenolic polymer.
18. (ORIGINAL) A method as recited in claim 15, wherein the barrier layer is spin coated on the substrate.

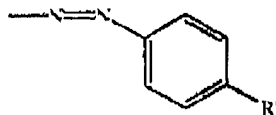
19. (ORIGINAL) A method as recited in claim 15, wherein the barrier layer is substantially formed in a monolayer.
20. (ORIGINAL) A method as recited in claim 15, wherein only one of R_1 , R_3 , R_4 , and R_5 is hydroxyl.
21. (ORIGINAL) A method as recited in claim 15, wherein the exposed portion of the top layer is removed using a developer.
22. (ORIGINAL) A method as recited in claim 21, wherein the developer also removes the exposed portion of the barrier layer.
23. (ORIGINAL) A method as recited in claim 21, wherein the developer does not remove the exposed portion of the barrier layer.
24. (ORIGINAL) A method as recited in claim 23, wherein the exposed portion of the barrier layer is removed by reactive ion etching.
25. (ORIGINAL) A method as recited in claim 23, wherein the exposed portion of the barrier layer is removed by milling.
26. (ORIGINAL) A method as recited in claim 15, wherein removal of the exposed portion of the barrier layer does not create undercuts under the photoresist.
27. (ORIGINAL) A method as recited in claim 15, wherein removal of the exposed portion of the barrier layer creates undercuts under the photoresist.
28. (ORIGINAL) A method as recited in claim 15, wherein the barrier layer also functions as an antireflective coating.

29. (WITHDRAWN) A magnetic storage system, comprising:
magnetic media;
at least one head for reading from and writing to the magnetic media, each head having:
a write head portion; and
a read head portion coupled to the write head portion;
wherein a portion of at least one of the read head portion and the write portion is
formed by the method of claim 1;
a slider for supporting the head; and
a control unit coupled to the head for controlling operation of the head.
30. (CANCEL) An adhesive composition, comprising:
an adhesive composition comprising a polyphenolic polymer, the polyphenolic polymer
comprising repeating monomeric units having the formula:



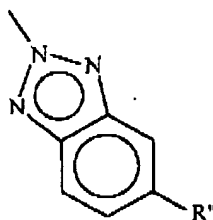
- wherein each of R₁, R₂, R₄, and R₅ are each individually a hydroxy group, hydrogen, or a substituted azo group and R₆ is a methylene or substituted methylene group.
31. (WITHDRAWN) An adhesive composition as recited in claim 30, wherein only one of R₁, R₂, R₄, and R₅ is hydroxyl.
32. (WITHDRAWN) An adhesive composition as recited in claim 30, wherein the polymer comprises second repeating units which are different.
33. (WITHDRAWN) An adhesive composition as recited in claim 30, wherein the polymer comprises first and second repeating units which are monoazo dyes.

34. (WITHDRAWN) An adhesive composition as recited in claim 33, wherein the monoazo dye has the formula:



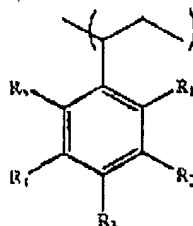
wherein R' is an alkyl moiety, an alkoxy moiety, or a carboxylate moiety.

35. (WITHDRAWN) An adhesive composition as recited in claim 34, wherein the monoazo dye has the formula:



wherein R'' is a hydrogen, an alkyl moiety, an alkoxy moiety, or a carboxylate moiety.

36. (PREVIOUSLY PRESENTED) A method for preventing exposure of protected portions of a substrate during plating, comprising:
coating a substrate with a barrier layer, wherein the barrier layer comprises an adhesive composition comprising a polyphenolic polymer, said polyphenolic polymer comprising repeating monomeric units having the formula:



wherein each of R_1 , R_2 , R_3 , R_4 , and R_5 are each individually a hydroxy group, hydrogen,
or an azo dye moiety;
coating the barrier layer with a top layer comprising a photoresist;
imagewise exposing the top layer to radiation;
removing a portion of the top layer for exposing a portion of the barrier layer;
removing the exposed portion of the barrier layer for exposing a portion of the substrate;
and
plating a material on the exposed portion of the substrate,
wherein the barrier layer is present in an effective amount to prevent cracks in the
photoresist from transferring through the barrier layer and exposing portions of
the substrate.

**IX APPENDIX LISTING ANY EVIDENCE RELIED ON BY THE APPELLANT IN THE
APPEAL (37 C.F.R. § 41.37(c)(1)(ix))**

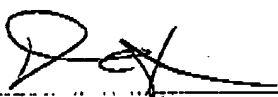
There is no such evidence.

X RELATED PROCEEDINGS APPENDIX (37 C.F.R. § 41.37(c)(1)(x))

None

In the event a telephone conversation would expedite the prosecution of this application, the Examiner may reach the undersigned at (408) 971-2573. For payment of any additional fees due in connection with the filing of this paper, the Commissioner is authorized to charge such fees to Deposit Account No. 50-2587 (Order No. HSJ920030085US1).

Respectfully submitted,

By: 
Dominic M. Kotab
Reg. No. 42,762

Date: 10/16/2006

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